

**Amendments to the Specification:**

Please replace paragraph [0076] with the following amended paragraph:

[0076] Turning now to FIGs. 19A and 19B, another embodiment of the present invention which may be used to obtain the transposed data illustrated in FIG. 16A is illustrated. This embodiment may be a faster embodiment than the embodiments previously described as it uses only two shift directions which are perpendicular. This embodiment requires a wrap mode and a stack size equal to one less than the number of PEs in a row (or column). In the embodiment of FIGs. 19A and 19B, it is assumed that wrap shifting (north to south, or vice versa, and east to west, or vice versa) is available. In FIG. 19A, a single collection step (i.e. a series of three north shifts) is used to store all the data from each column in the PE along the diagonal for that column. In FIG. 19B, a series of three east west shifts enables all the PEs along each row to see all the necessary column data, and by selecting the appropriate data for its position, the transposed data array may be achieved. Selecting of data as final output data may be controlled by local counters as discussed above. The method of FIGs. 19A and 19B may be used depending on the amount of data in the array and the amount of available data storage along the diagonal. Of course, the embodiment of FIGs. 19A and 19B can be implemented ~~used~~ using different directions (e.g. south to north shifts and west to east shifts) and can be used to arrive at the transposed data of FIG. 16B.